

CLAIMS

1. An airbag for preventing the lower body portion of a vehicle occupant from being propelled during a collision, comprising:

a front panel made from a rigid material;

5 a back panel made from a rigid material and attached to the front panel; and

an adapter unit in communication with the back panel and securely attachable to a diffuser portion of an inflator.

2. The airbag of claim 1, wherein the adapter unit is integral with the back panel.

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3. The airbag of claim 2, wherein the adapter unit further comprises an impression formed in the back panel, the impression comprising a first end portion configured to receive the inflator.

15 4. The airbag of claim 3, wherein the first end portion comprises an orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

5. The airbag of claim 4, further comprising a sealing wedge disposed between the inflator and the first end portion.

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6. The airbag of claim 3, wherein the first end portion comprises an orifice having a first diameter that is smaller than or equal to the diameter of the inflator, and wherein the adapter unit is securely attached to the diffuser portion of the inflator through a press fit.

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7. The airbag of claim 3, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

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8. The airbag of claim 2, wherein the adapter unit comprises an orifice formed in the back panel.

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9. The airbag of claim 8, wherein the back panel further comprises a lip portion encompassing the orifice, the lip portion being configured to prevent the diffuser portion of the inflator from becoming separated from the adapter unit during discharge of the inflator.

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10. The airbag of claim 1, wherein the adapter unit is distinct from the back panel.

11. The airbag of claim 10, wherein the adapter unit comprises a housing having an impression formed therein, the impression having a first end portion configured to receive the inflator.

5 12. The airbag of claim 11, wherein the first end portion comprises an orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

13. The airbag of claim 12, further comprising a sealing wedge disposed between the inflator and the first end portion.

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14. The airbag of claim 11, wherein the first end portion comprises an orifice having a first diameter, the first diameter being substantially equal to the diameter of the inflator.

15 15. The airbag of claim 11, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

16. The airbag of claim 1, wherein the rigid material comprises sheet metal.

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17. The airbag of claim 1, wherein the rigid material comprises a plastic material.

18. An airbag system for preventing a vehicle occupant from being propelled during a collision, comprising:

a front panel made from a rigid material;

a back panel made from a rigid material and attached to the front panel;

5 an adapter unit in communication with the back panel; and

an inflator having a diffuser portion, the diffuser portion being attached to the adapter unit.

19. The airbag system of claim 18, wherein the adapter unit is integral with the
10 back panel.

20. The airbag system of claim 19, wherein the adapter unit further comprises an impression formed in the back panel, the impression comprising a first end portion configured to receive the inflator.

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21. The airbag system of claim 20, wherein the first end portion comprises an orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

22. The airbag system of claim 21, further comprising a sealing wedge disposed
20 between the inflator and the first end portion.

23. The airbag system of claim 20, wherein the first end portion comprises an orifice having a first diameter that is smaller than or equal to the diameter of the inflator, and wherein the adapter unit is securely attached to the diffuser portion of the inflator through a press fit.

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24. The airbag system of claim 20, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

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25. The airbag system of claim 19, wherein the adapter unit comprises an orifice formed in the back panel.

26. The airbag system of claim 25, wherein the back panel further comprises a lip portion encompassing the orifice, the lip portion being configured to prevent the diffuser portion of the inflator from becoming separated from the adapter unit during discharge of the inflator.

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27. The airbag system of claim 18, wherein the adapter unit is distinct from the back panel.

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28. The airbag system of claim 27, wherein the adapter unit comprises a housing having an impression formed therein, the impression having a first end portion configured to receive the inflator.

5 29. The airbag system of claim 28, wherein the first end portion comprises an orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

30. The airbag system of claim 29, further comprising a sealing wedge disposed
10 between the inflator and the first end portion.

31. The airbag system of claim 28, wherein the first end portion comprises an orifice having a first diameter, the first diameter being substantially equal to the diameter of the inflator.

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32. The airbag system of claim 28, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

20 33. The airbag system of claim 18, wherein the rigid material comprises sheet metal.

34. The airbag system of claim 18, wherein the rigid material comprises a plastic material.

35. An airbag system for preventing a vehicle occupant from being propelled during a collision, comprising:

a front panel made from a rigid material, the front panel having a first side and a second side;

5 a decorative trim panel attached to the first side of the front panel;

a back panel made from a rigid material and attached to the second side of the front panel;

an adapter unit in communication with the back panel; and

10 an inflator having a diffuser portion, the diffuser portion being attached to the adapter unit.

36. The airbag system of claim 35, wherein the adapter unit is integral with the back panel.

15 37. The airbag system of claim 36, wherein the adapter unit further comprises an impression formed in the back panel, the impression comprising a first end portion configured to receive the inflator.

38. The airbag system of claim 37, wherein the first end portion comprises an
20 orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

39. The airbag system of claim 38, further comprising a sealing wedge disposed between the inflator and the first end portion.

40. The airbag system of claim 37, wherein the first end portion comprises an orifice having a first diameter that is smaller than or equal to the diameter of the inflator, and wherein the adapter unit is securely attached to the diffuser portion of the inflator through a press fit.

41. The airbag system of claim 37, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

42. The airbag system of claim 36, wherein the adapter unit comprises an orifice formed in the back panel.

43. The airbag system of claim 42, wherein the back panel further comprises a lip portion encompassing the orifice, the lip portion being configured to prevent the diffuser portion of the inflator from becoming separated from the adapter unit during discharge of the inflator.

44. The airbag system of claim 35, wherein the adapter unit is distinct from the back panel.

45. The airbag system of claim 44, wherein the adapter unit comprises a housing having an impression formed therein, the impression having a first end portion configured to receive the inflator.

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46. The airbag system of claim 45, wherein the first end portion comprises an orifice having a first diameter, the first diameter being larger than the diameter of the inflator.

10 47. The airbag system of claim 46, further comprising a sealing wedge disposed between the inflator and the first end portion.

48. The airbag system of claim 45, wherein the first end portion comprises an orifice having a first diameter, the first diameter being substantially equal to the diameter
15 of the inflator.

49. The airbag system of claim 45, further comprising a fastener attached to the diffuser portion of the inflator, and wherein the impression further comprises a second end portion configured to receive the fastener.

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50. The airbag system of claim 35, wherein the rigid material comprises sheet metal.

51. The airbag system of claim 35, wherein the rigid material comprises a plastic material.